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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/729,915

12/09/2003

Matthew L. Cooper

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EXAMINER

TIMBLIN, ROBERT M

ART UNIT

PAPER NUMBER

2167

NOTIFICATION DATE

DELIVERY MODE

10/15/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@sughrue.com

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<b>Office Action Summary</b>	<b>Application No.</b> 10/729,915	<b>Applicant(s)</b> COOPER ET AL.	
	<b>Examiner</b> ROBERT TIMBLIN	<b>Art Unit</b> 2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 7/29/2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-16 and 18-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-16, and 18-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This office action corresponds to application 10/729,915 and Applicant's remarks/amendments filed 7/29/2008.

#### ***Response to Amendment***

The Amendments submitted 8/22/2007 have been acknowledged and entered. Claims 1, 3-16, and 18-29 are currently pending.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/29/2008 has been entered.

#### ***Response to 1.131 Declaration***

The declaration filed on 7/29/2008 pursuant to 37 CFR 1.131 is sufficient to overcome the Bellegarda et al. (U.S. Patent Application 2005/0044487 A1) reference.

### ***Claim Objections***

Claim 11 is objected to because there should be a semicolon (;) concluding the 6<sup>th</sup> line of the claim (i.e. after "meta-data" elements). Further, the comma concluding the second to last line of the claim (i.e. after "similarity values") should be removed. Appropriate correction is required.

Claim 26 is objected to because it recites a *computerized* system; however, the claim language is unclear as to whether the computerized system includes hardware to define a structural system. Although *suggestive* of being a hardware system, the Examiner submits that claiming the system as comprising memory and/or a processor more clearly defines the computerized system to contain structure.

### ***35 USC § 101***

Claim 26 is now accepted under 35 USC 101 as the claim recites a computerized system while including an input link (referring to Applicants figure 18) to suggest the system is a hardware system.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 11, 12, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Platt et al. ('Platt' hereafter; U.S. Patent 6,993,532) in view of Zhang et al. ('Zhang' hereafter; U.S. Patent 6,944,607).

With respect to claim 1, Platt discloses A method for organizing a plurality of data files using meta-data wherein at least one meta-data element is associated with each data file, the method comprising:

extracting (col. 11 line 39-41) for at least some selected data files (col. 6 line 45-49; e.g. user items such as songs, movies images, etc), at least one meta-data element (drawing reference 725, 730) associated with a respective selected data file (col. 6 line 45-49; e.g. user items such as songs, movies images, etc);

organizing the extracted meta-data elements (figure 3) into a single ordered set wherein the set is ordered consecutively based on values (col. 7 line 32-41; such as generating an index of names) for one or more of the extracted meta-data elements (drawing reference 725, 730);

calculating pair-wise differences (col. 3 line 40-44 and drawing reference 530) between values (col. 9 table 1) of each of the extracted meta-data elements (drawing reference 725, 730);

multiplying each pair-wise difference (col. 3 line 40-44, drawing reference 530, and col. 19 line 59-67 and fig. 16) to obtain a plurality of similarity values (drawing reference 550) for determining clustering based on the similarity values (col. 3 line 13-22; e.g. generating a list of similar items based on their [metadata] relation); and

dividing the selected data files (col. 3 line 7; i.e. generating lists) into groups based on the similarity values (drawing reference 550).

Platt does not appear to expressly disclose inputting at least one value of a clustering sensitivity parameter, said clustering sensitivity parameter defining granularity of the clustering.

Zhang, however, teaches inputting at least one value of a clustering sensitivity parameter (col. 4 line 60-64; e.g. a size parameter), said clustering sensitivity parameter (col. 4 line 60-64; e.g. a size parameter) defining granularity of the clustering (col. 5 line 1-12) for defining a cluster granularity.

In the same field of endeavor, (i.e. clustering based on metadata and features), it would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the clustering sensitivity parameter of Zhang would have given Platt a selectable clustering method for a user to tailor playlists with items of similar metadata. Such a benefit would have been realized when a user is able to select closely similar or dissimilar songs (Platt, col. 5 line 43-48).

With respect to claim 11, Platt discloses A method for organizing a plurality of data files stored in a digital memory using meta-data, wherein at least one meta-data element is at least associated with a corresponding one of the plurality of data files, the method comprising:

Extracting (col. 11 line 39-41) from the memory (430) meta-data elements (drawing reference 725, 730) of the plurality of data files (col. 6 line 45-49; e.g. user items such as songs, movies images, etc);

organizing the extracted meta-data elements (figure 3) into a single ordered set wherein the set is ordered consecutively based on values for one or more of the extracted meta-data elements (col. 7 line 32-41; such as generating an index of names)

calculating pair-wise differences (col. 3 line 40-44 and drawing reference 530) between values (col. 9 table 1) of each of the extracted meta-data elements (drawing reference 725, 730);

multiplying each pair-wise difference col. 3 line 40-44, drawing reference 530, and col. 19 line 59-67 and fig. 16) by the clustering sensitivity parameter to obtain a plurality of similarity values (drawing reference 550);

determining a structure within the meta-data elements by comparing, for at least a subset of the plurality of data files, the similarity values (col. 3 line 34-40; i.e. generating a list of similar items); and,

storing the structure of the data files in a memory (drawing references 630, 1760).

Platt does not appear to expressly disclose inputting at least one value of a clustering sensitivity parameter, said clustering sensitivity parameter defining granularity of the clustering.

Zhang, however, teaches inputting at least one value of a clustering sensitivity parameter (col. 4 line 60-64; e.g. a size parameter), said clustering sensitivity parameter

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(col. 4 line 60-64; e.g. a size parameter) defining granularity of the clustering (col. 5 line 1-12) for defining a cluster granularity.

In the same field of endeavor, (i.e. clustering based on metadata and features), it would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the clustering sensitivity parameter of Zhang would have given Platt a selectable clustering method for a user to tailor playlists with items of similar metadata. Such a benefit would have been realized when a user is able to select closely similar or dissimilar songs (Platt, col. 5 line 43-48).

With respect to claim 12, Platt discloses the method of claim 11, further comprising clustering the data files into groups using the determined structure of the meta-data elements (figure 5).

With respect to claim 14, Platt teaches determining a similarity value by comparing at least some of the meta-data elements in one cluster of data files to at least some other ones of the meta data elements in that element cluster of data files (figure 5);

determining a dissimilarity value (fig. 11) by comparing at least some of the meta-data elements in one cluster of data files to at least some of the meta-data elements in another cluster of data files (abstract) for finding differing items.



With respect to claim 15, Platt teaches determining a value corresponding to a desired grouping of the clusters of data files based on the differences of the similarity values and the dissimilarity values (col. 5 lines 43-48).

With respect to claim 16 Platt discloses A storage medium storing a set of program instructions executable on a data processing device and usable to organize a plurality of data files by using meta-data wherein at least one meta-data element is associated with each data file, the program comprising:

instructions for extracting (col. 11 line 39-41), for at least some of the data files (col. 6 line 45-49; e.g. user items such as songs, movies images, etc), at least one meta-data element (drawing reference 725, 730) associated with each of the some data files (col. 6 line 45-49; e.g. user items such as songs, movies images, etc);

instructions for organizing (figure 3) the extracted meta-data elements in a desired order into a single ordered set wherein the set is ordered consecutively based on at least one of: chronological, alphabetical numerical, or geographical ordering (col. 7 line 32-41; such as generating an index of names);

instructions for calculating pair-wise differences (col. 3 line 40-44 and drawing reference 530) between values (col. 9 table 1) of each of the extracted meta-data elements (drawing reference 725, 730);

instructions for multiplying each pair-wise difference (col. 3 line 40-44, drawing reference 530, and col. 19 line 59-67 and fig. 16) by the clustering sensitivity parameter to obtain a plurality of similarity values (drawing reference 550); and

instructions for dividing the data files into groups based on the similarity values of the extracted meta-data elements (drawing reference 550).

Platt does not appear to expressly disclose inputting at least one value of a clustering sensitivity parameter, said clustering sensitivity parameter defining granularity of the clustering.

Zhang, however, teaches inputting at least one value of a clustering sensitivity parameter (col. 4 line 60-64; e.g. a size parameter), said clustering sensitivity parameter (col. 4 line 60-64; e.g. a size parameter) defining granularity of the clustering (col. 5 line 1-12) for defining a cluster granularity.

In the same field of endeavor, (i.e. clustering based on metadata and features), it would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the clustering sensitivity parameter of Zhang would have given Platt a selectable clustering method for a user to tailor playlists with items of similar metadata. Such a benefit would have been realized when a user is able to select closely similar or dissimilar songs (Platt, col. 5 line 43-48).

Claims 4-7, 13, 18, 20-22, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Platt and Zhang as applied to claims 1, 11, 12, and 16 above in view of Foote (Foote, "Automatic Audio Segmentation Using a Measure of Audio Novelty", FX Palo Alto Laboratory Inc).

With respect to claims 4 and 20 and similar claim 27, Platt and Zhang fails to teach determining at least one similarity value as presented in the corresponding calculation.

Foote, however, teaches determining at least one similarity value as presented as the calculation on page 452 where a distance measure is computed to yield a similarity score.

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the computation of Foote would have given Platt and Zhang's system a property that can yield a similarity score (452, subsection A). Such a calculation would help Platt and Zhang further analyze data files.

This rejection applies equally well to claims 20 and 27.

With respect to claims 5 and 18 Platt and Zhang fails to teach determining, for each of at least some data files, at least one novelty value for that data file based on the at least one similarity value for that data file and for a number of nearby data files.

Foote, however teaches this limitation as finding the novelty measure to detect a novelty value (subsection B 453-454).

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the computation of Foot would have given Platt and Zhang's system the ability to detect novelty value (454) and further to help analyze data files.

With respect to claims 6 and 22 Foote teaches determining at least one novelty value as presented as the calculation on page 454, where novelty  $N(i)$  is computed to detect a novelty value. The Gaussian tapered checkerboard kernel can be found within reference to figure 3 on page 453. The motivation for combining Foote to Platt and Zhang can equally apply well from the rejection of claims 4 and 20 and similar claim 27 above.

With respect to claims 7, 13 and 21 Platt and Zhang fails to teach determining at least one boundary location between ones of the plurality of data files based on the at least one novelty value determined for at least some of the data files.

Foote, however, teaches determining at least one boundary location between ones of the plurality of data files based on the at least one novelty value determined for at least some of the data files as extracting segment boundaries (subsection C, 454) to estimate boundaries.

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because determining at least one boundary location of Foote would have given Platt and Zhang's system a good estimate of boundaries (under *Audio segmentation and indexing* 455).

Claims 8-10, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Platt/Zhang and Foote as set forth in claims 4-7, 18, and 20-22 above and further in view of Schwanke (US 5,485,621).

With respect to claims 8 and 23, the combination of Platt, Zhang and Foote fails to teach determining a confidence value for that boundary location. Schwanke, however, teaches this limitation (col. 21, lines 43-45) to provide a decision on which groups to combine.

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because this teaching of Schwanke would have given the combination of Platt/Zhang and Foote's system a decision on which groups to combine (abstract, Schwanke).

With respect to claims 9 and 24, combination of Platt, Zhang and Foote fails to expressly teach the determination of the confidence value as substantially claimed. Schwanke, however, teaches the confidence value as substantially claimed (e.g. col. 21 line 43-col. 22 line 22) for determining a confidence in similarity.

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because this teaching of Schwanke would have given the combination of Platt/Zhang and Foote's system a decision on which groups to combine (abstract, Schwanke).

With respect to claims 10 and 25 Platt and Zhang fails to teach at least one parameter value that maximizes the confidence value.

Foote, however, teaches at least one parameter value that maximizes the confidence value as the similarity matrix S will have the maximum values (3<sup>rd</sup> paragraph in subsection A, page 452). The motivation for combining Foote to Platt and Zhang can equally apply well from the rejection of claims 4 and 20 and similar claim 27 above.

With respect to claim 26, the limitations of this claim been addressed in the preceding claims set forth above. Accordingly, these claims have been rejected for the same reasons as set forth above by the combination of Platt/Zhang and Foote in further view of Schwanke.

Claims 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Platt, Zhang and Foote as applied to claims 1 and 27 above in further view of Gargi et al. ('Gargi' hereinafter) (U.S. Patent Application 2005/0027712 A1).

With respect to claim 28, Platt and Zhang fail to teach an exponentially decreasing function of the scalar magnitude of the difference between  $t_{sub\ j}$  and  $t_{sub\ j}$  relative to K.

Gargi, however, teaches this limitation in the formula above [0055] and in respect to a weighting factor [0051] for efficiently organizing data.

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the teachings of Gargi would have provided to Platt and Zhang's system aid in developing an organized collection of data ([0009], Gargi).

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Platt and Zhang as applied to claim 1 above and further in view of Gargi.

With respect to claim 29, Platt and Zhang fail to teach the similarity value of the at least one pair of the selected data files comprises a term depending on an inner product of  $v_{\text{sub } i}$  and  $v_{\text{sub } j}$  relative to  $K$ , where  $K$  is the clustering sensitivity parameter value,  $V_{\text{sub } i}$  is an actual vector value determined from the  $I$  data file, and  $v_{\text{sub } j}$  is an actual vector value determined from the  $j$  data file.

Gargi, however, teaches this limitation in the formula below [0053] for efficiently organizing data.

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the teachings of Gargi would have provided to Platt and Zhang's system aid in developing an organized collection of data ([0009], Gargi).

### ***Response to Arguments***

Applicant's arguments with respect to the pending claims rejected by Bellegarda have been considered and are persuasive. Specifically, the Declaration pursuant to 37 C.F.R. 1.131 has been reviewed and determined as effective for disqualifying the Bellegarda reference. In response, a new interpretation of the Platt reference combined with the Zhang reference (see above rejection) provides an applicable rejection. Briefly, the Examiner submits that Platt discloses a system to organize a plurality of user items based on their retrieved metadata and Zhang discloses the use of a clustering sensitivity parameter. Motivation for the combination is apparent in the aforementioned rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,904,420 to Shetty et al. The subject matter disclosed therein pertains to the pending claims (i.e. clustering granularity).

Stubler et al. U.S. Patent Application 2002/0188602. The subject matter disclosed therein pertains to the pending claims (i.e. metadata comparisons for clustering).



***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M. Timblin whose telephone number is 571-272-5627. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ROBERT TIMBLIN/

Examiner, Art Unit 2167

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